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IS 10643 (1983): Sensory evaluation procedure to establish guidelines for open dating processed food products [FAD 16: Foodgrains, Starches and Ready to Eat Foods]



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“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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*Indian Standard*

SENSORY EVALUATION PROCEDURE TO  
ESTABLISH GUIDELINES FOR OPEN DATING  
PROCESSED FOOD PRODUCTS

UDC 664.8/9 : 543.92



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**INDIAN STANDARDS INSTITUTION**  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

# Indian Standard

## SENSORY EVALUATION PROCEDURE TO ESTABLISH GUIDELINES FOR OPEN DATING PROCESSED FOOD PRODUCTS

Sensory Evaluation Sectional Committee, AFDC 38

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\*Dr. G. Sadasivan was the Chairman elected for the meeting in which this standard was finalized.

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## *Indian Standard*

# SENSORY EVALUATION PROCEDURE TO ESTABLISH GUIDELINES FOR OPEN DATING PROCESSED FOOD PRODUCTS

### 0. FOREWORD

**0.1** This Indian Standard was adopted by the Indian Standards Institution on 30 August 1983, after the draft finalized by the Sensory Evaluation Sectional Committee had been approved by the Agricultural and Food Products Division Council.

**0.2** Guidelines for open dating processed food products are important because (a) there will be changes in the quality of such a product over a period of time after the date of processing; (b) for some unknown interval of time immediately after the processing date the product quality will remain at the same level; (c) after this interval the product quality will continue to deteriorate at rates specific for different products; and (d) when the deterioration in quality is beyond a certain level, the product will be unacceptable to the consumer.

**0.3** It is recognized that the precise dates by which deterioration sets in a specified product cannot be given exactly, since, the tests with panelists are influenced by experimental factors pertaining to sample presentation, psychophysical factors involved in the assessment of the product by the panelists and factors due to the insufficient training of panelists in conducting the test.

**0.4** The relevant committee felt that an Indian Standard method for evaluating the changes in processed food products over a period of time would help in achieving uniformity in such determinations.

**0.5** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960\*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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\*Rules for rounding off numerical values (*revised*).

## **1. SCOPE**

**1.1** This standard describes recommended methods for evaluating quality changes in processed food products over a period of time for establishing guidelines for open-dating them for consumer use.

## **2. TERMINOLOGY**

**2.0** For the purpose of this standard the following definitions shall apply.

**2.0.1** Open-dating is used to mean differently in different food industries; the most common ones are defined below.

**2.1 Sell-by-Date** — The sell-by-date is the last date of offer for sale to the consumer after which there remains a reasonable storage period in the home.

**2.2 Expiration Date** — The last day the product is recommended for use at full quality level.

**2.3 Date of Minimum Durability ( Best Before )** — The date which signifies the end of the period under any stated storage condition during which the product will remain fully marketable and will retain any specific qualities for which tacit or express claims have been made. However, beyond that date the food may still be perfectly satisfactory.

## **3. OPTIMUM REQUIREMENTS**

**3.1** Optimum requirements for conducting sensory evaluation and training of panel and conducting consumer acceptance/preference studies are given in IS : 6273 ( Part 1 )-1971\*.

## **4. PRINCIPLE**

**4.1** The product quality just after processing is established through physico-chemical and sensory analysis. This provides the base line data.

**4.2** Decision regarding the storage life obtained during laboratory trials/previous factory trials are made use of for projecting the length of storage time and testing intervals.

**4.3** Depending on the number of withdrawals and the quantity required for testing at the end of each interval, sufficient samples of the products are drawn and stored.

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\*Guide for sensory evaluation of foods: Part 1 Optimum requirements.



**4.4** Initial tests conducted for assessing product quality using representative product samples are repeated at the end of each interval of storage until significant decline in product quality occurs at any particular stage after which the open date is assigned by the producer.

## 5. METHODS

**5.1** The product is processed and packaged in a marketing manner.

**5.2** Physico-chemical tests at each stage are carried out by the following standard methods of analysis.

**5.3** Sensory analysis is done at each stage according to selected experimental designs depending on the test method used, number of product variables to be evaluated and the number of panelists available so as to obtain maximum information with the available resources [ IS : 6273 ( Part 2 )-1971\* and IS : 6273 ( Part 3 )-1975\* ].

**5.4** A representative sample from the product for establishing this guidelines is drawn using standard sampling methods ( IS : 1548-1969† ). The quantity to be drawn is decided by the number of intervals at which tests are to be conducted, as well as the quantity required for each test.

**5.5** All production information such as dates, lot numbers and codes are documented and separate laboratory codes are assigned to each sample.

**5.6** The samples drawn are subjected to simulated distribution and storage conditions so as to reflect the market conditions of handling and purchase. The market conditions are determined on the basis of apriori knowledge of the temperature, light, environment and display method encountered in the market. Accelerated storage conditions can be used if they are validated against non-accelerated conditions.

**5.7** For sensory analysis train a panel ( IS : 8140-1976‡ ) which has been earlier screened for capacity to discriminate differences in and repeat judgements for the main quality attributes of the product to be evaluated. Familiarize the panel with the test method and ranges of quality differences in the attributes they are to evaluate so that uniformity among panelists in understanding the quality attributes of the product is achieved.

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\*Guide for sensory evaluation of foods:

Part 2 Methods and evaluation cards.

Part 3 Statistical analysis of data.

†Manual on basic principles of lot sampling ( *first revision* ).

‡Guide for selection of panel for sensory evaluation of foods and beverages.

## **IS : 10643 - 1983**

**5.8** Determine the attributes of the product to be assessed based on consumer concepts as well as on the knowledge about the composition, anticipated changes, processing methods, packaging and storage conditions.

**5.9** The quality descriptions are developed reflecting the selected impact attributes-colour and appearance, aroma, taste and/or texture.

**5.10** The consistency in the performance of the panel is continuously mentioned during evaluations as recommended in IS : 8140-1976\*.

**5.11** Based on the appropriate design selected, present coded samples to the panelists under minimal bias generating conditions [ IS : 6273 (Part 3 )-1975† ].

**5.12** The scale for each quality attribute is chosen to conform with the corresponding physico-chemical measurement.

**5.13** The data are collected and collated.

## **6. ANALYSIS OF DATA**

**6.1** The appropriate analysis and interpretation of data are carried out as recommended in IS : 6273 ( Part 3 )-1975†.

## **7. TEST REPORT**

**7.1** Based on the results and interpretation the 'open dates', that is, the sell-by-date, 'the expiry-date' and the 'date of minimum durability' are fixed for each product.

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\*Guide for selection of panel for sensory evaluation of foods and beverages.

†Guide for sensory evaluation of foods: Part 3 Statistical analysis of data.